

Attorney Docket No. 49950-59776  
U.S.S.N. 09/885,297  
Applicants: Ingram *et al.*

Examiner: Rao, Manjunath N.  
Group Art Unit: 1652

### REMARKS

Claims 44-49, 51-53 and 55-59 are pending in the instant application and these claims stand rejected. Claim 44 has been amended and claims 111 and 112 have been added. Accordingly, claims 44-49, 51-53, 55-59, 111 and 112 will be pending upon entry of the instant amendment.

Independent claim 44 has been amended to change the recitation "derived from *Erwinia*" to "comprise a polynucleotide segment isolated from *Erwinia*". Claims 111 and 112 have been added to claim more fully the instant invention. Support for the amendment to claim 44 and the addition of claims 111 and 112 can be found in the claims and specification as originally filed. In particular, support can be found at least, for example, in the specification at page 18, lines 24-28. No new matter has been added.

Amendment of the claims is not to be construed as acquiescence to any of the rejections set forth in this Office Action or any previous Office Action, and was done solely to expedite prosecution of the application. Applicants reserve the right to pursue the originally filed claims in further patent applications.

### *Telephonic Interview with Examiner Rao*

Applicants wish to thank Examiner Rao for the very helpful telephonic interview with the undersigned on May 2, 2005.

### *Claim Rejections – 35 U.S.C. §112, Second Paragraph*

Claims 44 and claims 45-49, 51-53 and 55-59, all of which depend from claim 44, are rejected under 35 U.S.C. §112, second paragraph as indefinite. The Examiner alleges that the phrase "derived from *Erwinia*" is unclear as to its metes and bounds because the term "derived" could be interpreted to mean "to isolate from or obtain from a source", "to arrive at by reasoning *i.e.*, to deduce or infer", or to produce or obtain from another source". Applicants respectfully disagree and traverse the rejection.

However, without acquiescing in any way to the rejection and in order to expedite prosecution of the application, Applicants have amended claim 44 in accordance with Examiner Rao's helpful suggestions to the undersigned made during the above-referenced telephonic interview. Applicants submit that the rejection is no longer applicable to claim 44, as presented.

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herein, or to claims 45-49, 51-53, 55-59, 111 and 112, which depend from claim 44, and, therefore, respectfully request reconsideration and withdrawal of the rejection.

Claims 44 and claims 45-49, 51-53 and 55-59, all of which depend from claim 44, are further rejected under 35 U.S.C. §112, second paragraph as indefinite, because of the recitation "additional enzymes". In particular, the Examiner alleges that it is not clear as to the metes and bounds of that recitation, nor as to whether the additional enzyme is added along with the host cell or whether the additional enzyme is expressed by the host cell. Applicants respectfully disagree and traverse the rejection.

Applicants submit that when one of ordinary skill in the art construes the phrase "additional enzymes" in light of the specification (*see, e.g.*, page 3, lines 1-27), he/she will understand that the additional enzymes contemplated by the invention are any enzymes that enhance expression and secretion of the desired enzymes, *e.g.*, endoglucanases, as well as any enzymes that enhance production of ethanol from organic matter/bagasse. Thus, the specification teaches that such additional enzymes include glucanase, endoglucanase, exoglucanase, cellobiohydrolase,  $\beta$ -glucosidase, endo-1,4- $\beta$ -xylanase,  $\alpha$ -xylosidase,  $\alpha$ -glucuronidase,  $\alpha$ -L-arabinofuranosidase, acetyl esterase, acetyl xylan esterase,  $\alpha$ -amylase,  $\beta$ -amylase, glucoamylase, pullulanase,  $\beta$ -glucanase, hemicellulase, arabinosidase, mannanase, pectin hydrolase, peptidase lyase, ethanologenic enzymes (*e.g.*, pyruvate decarboxylase and alcohol dehydrogenase), secretory enzymes (*e.g.*, *pul* and *out* gene products) or a combination thereof. (*See, e.g.*, the specification at page 4, lines 23-27; and at page 5, lines 33-37.)

Further, in Applicants' Amendment and Response filed on March 11, 2004, claim 44 was amended to recite that the recombinant host comprises a polynucleotide segment that expresses an additional enzyme. Likewise, page 5 of the specification was amended to recite that in one embodiment of the recombinant host aspect of the invention, the recombinant host expresses an additional enzyme.

Applicants submit that claim 44, when construed by one of ordinary skill in the art in light of the specification, is sufficiently clear and definite, and meets the requirements of 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of the claims under the second paragraph of 35 U.S.C. §112.

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***Claim Rejections – 35 U.S.C. §112, First Paragraph***

Claims 44 and claims 45-49, 51-53 and 55-59, all of which depend from claim 44, are rejected under 35 U.S.C. §112, first paragraph, for lack of enablement. Specifically, the Examiner alleges that the specification does not reasonably provide enablement for claims directed to recombinant host cells suitable for degrading an oligosaccharide comprising any two endoglucanases from any source as the first and second endoglucanases under the control of any surrogate promoter from any source and such recombinant host cell further comprising additional cthanologenic enzymes. Applicants respectfully disagree and traverse the rejection.

However, without acquiescing in any way to the rejection and in order to expedite prosecution of the application, Applicants have amended claim 44 in accordance with Examiner Rao's helpful suggestions to the undersigned made during the above-referenced telephonic interview. Applicants submit that the rejection is no longer applicable to claim 44, as presented herein, or to claims 45-49, 51-53, 55-59, 111 and 112, which depend from claim 44, and, therefore, respectfully request reconsideration and withdrawal of the rejection.

Claims 44 and claims 45-49, 51-53 and 55-59, all of which depend from claim 44, are further rejected under 35 U.S.C. §112, first paragraph, for lack of written description in the specification. Applicants respectfully disagree and traverse the rejection.

However, without acquiescing in any way to the rejection and in order to expedite prosecution of the application, Applicants have amended claim 44 in accordance with Examiner Rao's helpful suggestions to the undersigned made during the above-referenced telephonic interview. Applicants submit that the rejection is no longer applicable to claim 44, as presented herein, or to claims 45-49, 51-53, 55-59, 111 and 112, which depend from claim 44, and, therefore, respectfully request reconsideration and withdrawal of the rejection.

***Claim Rejections – 35 U.S.C. §102***

Claims 44 and claims 45-49, 51-53 and 55-59, all of which depend from claim 44, are rejected under 35 U.S.C. §102(b) as being anticipated by W. Liebl, *et al.*, "Analysis of a *Thermotoga maritime* DNA Fragment Encoding Two Similar Thermostable Cellulases, CelA and CelB, and Characterization of the Recombinant Enzymes", *Microbiology*, 142: 2533-2542 (1996) or K. Riedel, *et al.*, Intramolecular Synergism in an Engineered Exo-Endo-1,4- $\beta$ -Glucanase Fusion Protein", *Molecular Biology*, 28(4): 767-775 (1998). Applicants respectfully disagree and traverse the rejection.

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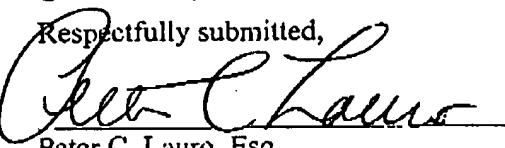
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However, without acquiescing in any way to the rejection and in order to expedite prosecution of the application, Applicants have amended claim 44 in accordance with Examiner Rao's helpful suggestions to the undersigned made during the above-referenced telephonic interview. Applicants submit that the rejection is no longer applicable to claim 44, as presented herein, or to claims 45-49, 51-53, 55-59, 111 and 112, which depend from claim 44, and, therefore, respectfully request reconsideration and withdrawal of the rejection.

#### CONCLUSION

In view of the foregoing, entry of the amendments and remarks presented herein, favorable reconsideration and withdrawal of all rejections, and allowance of this application with claims 44-49, 51-53, 55-59, 111 and 112 are respectfully solicited. If a telephone conversation with Applicants' attorney would help expedite the prosecution of the above-identified application, the Examiner is urged to call the undersigned attorney at (617) 517-5509.

Respectfully submitted,



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